CLAIMS

What is claimed is:

1. A method for obtaining information about the capacity or tendency of an oligopeptide, or a modification or derivative thereof, to regulate expression of a gene comprising the steps of:

a) contacting said oligopeptide, or a modification or derivative thereof, with at leaste one cell;

b) determining the presence of at least one gene product in or derived from said cell.

2. The method according to claim 1 wherein said oligopeptide comprises an amino acid sequence corresponding to a fragment of a naturally occurring polypeptide.

3. The method according to claim 2 wherein said naturally occurring polypeptide comprises human chorionic gonadotropic hormone (hCG).

4. The method according to any one of claims 1 to 3 wherein said cell comprises an eukaryotic cell.

5. The method according to any one of claims 1 to 4 further comprising

c) determining the presence of said gene product in or derived from a cell which has not been contacted with said oligopeptide, or a modification or derivative thereof, and determining the ratio of gene product found in step b to gene product found in step c.

6. A method for identifying or obtaining a signalling molecule comprising a peptide or functional derivative or analogue thereof capable of modulating expression of a gene in a cell comprising providing said cell with a peptide or derivative or analogue thereof and determining the activity and/or nuclear translocation of a gene transcription factor and then synthesising the molecule with the desired activity.

7. The method according to claim 6 further comprising determining whether said signalling molecule is membrane-permeable.

8. The method according to claim 6 or 7 wherein said gene transcription factor comprises a NF-kappaB/Rel protein.

9. A method for identifying or obtaining a signalling molecule comprising a peptide or functional derivative or analogue thereof capable of modulating expression of a gene in a cell comprising providing said cell with a peptide or derivative or analogue thereof and determining relative up-regulation and/or down-regulation of at least one gene expressed in said cell and then synthesising the molecule with the desired activity.

10. The method according to claim 6, 7, 8 or 9 further comprising determining relative up-regulation and/or down-regulation of at least one gene expressed in said cell.

11. The method according to claim 6 to 10 further comprising determining relative up-regulation and/or down-regulation of a multitude of genes expressed in said cell.

12. A method for identifying or obtaining a signalling molecule comprising a peptide or functional derivative or analogue thereof capable of modulating expression of a gene in a cell comprising providing a peptide or derivative or analogue thereof and determining binding of said peptide or derivative or analogue thereof to a factor related to gene control and then synthesising the molecule with the desired activity.

13 The method according to claim 12 further comprising providing a multitude of peptides or derivatives or analogues thereof and determining binding of at least one of said peptides or derivatives or analogues thereof to a factor related to gene control.

14. The method according to claim 12 or 13 wherein said factor related to gene control comprises a transcription factor.

15. The method according to claim 14 wherein said transcription factor comprises a NF-kappaB-Rel protein.

16. The method according any one of claims 12 to 15 further comprising providing a cell with said peptide or derivative or analogue thereof and determining the activity and/or nuclear translocation of a gene transcription factor in said cell.

17. The method according to any one of claims 12 to 16 further comprising providing a cell with said peptide or derivative or analogue thereof and determining relative up-regulation and/or down-regulation of at least one gene expressed in said cell.

18. A signalling molecule useful in modulating expression of a gene in a cell and identifiable or obtainable by employing a method according to any one of claims 1 to 17.

19. A signalling molecule according to claim 18 selected from the group of peptides LQG, AQG, LQGV, AQGV, LQGA, VLPALP, ALPALP, VAPALP, ALPALPQ, VLPAAPQ, VLPALAQ, LAGV, VLAALP, VLAALP, VLPALA, VLPALPQ, VLAALPQ, VLPALPA, GVLPALP, LQGVLPALPQVVC, LPGCPRGVNPVVS, LPGC, MTRV, MTR, VVC, and functional analogues or derivatives thereof.

20. A signalling molecule capable of modulating expression of a gene in a cell comprising a peptide of at most 30 amino acids or a functional analogue or derivative thereof.

21. A signalling molecule according to claim 20 wherein said peptide is an oligopeptide of from about 3 to at about 15 amino acids long.

22. A modulator of NF-kappaB/Rel protein activation comprising a signalling molecule according to anyone of claims 18 to 21.

23. Use of a signalling molecule according to anyone of claim 18 to 21 for the production of a pharmaceutical composition for the modulation of gene expression.

24. Use according to claim 23 for the modulation of gene expression by inhibiting NF-kappaB/Rel protein activation.